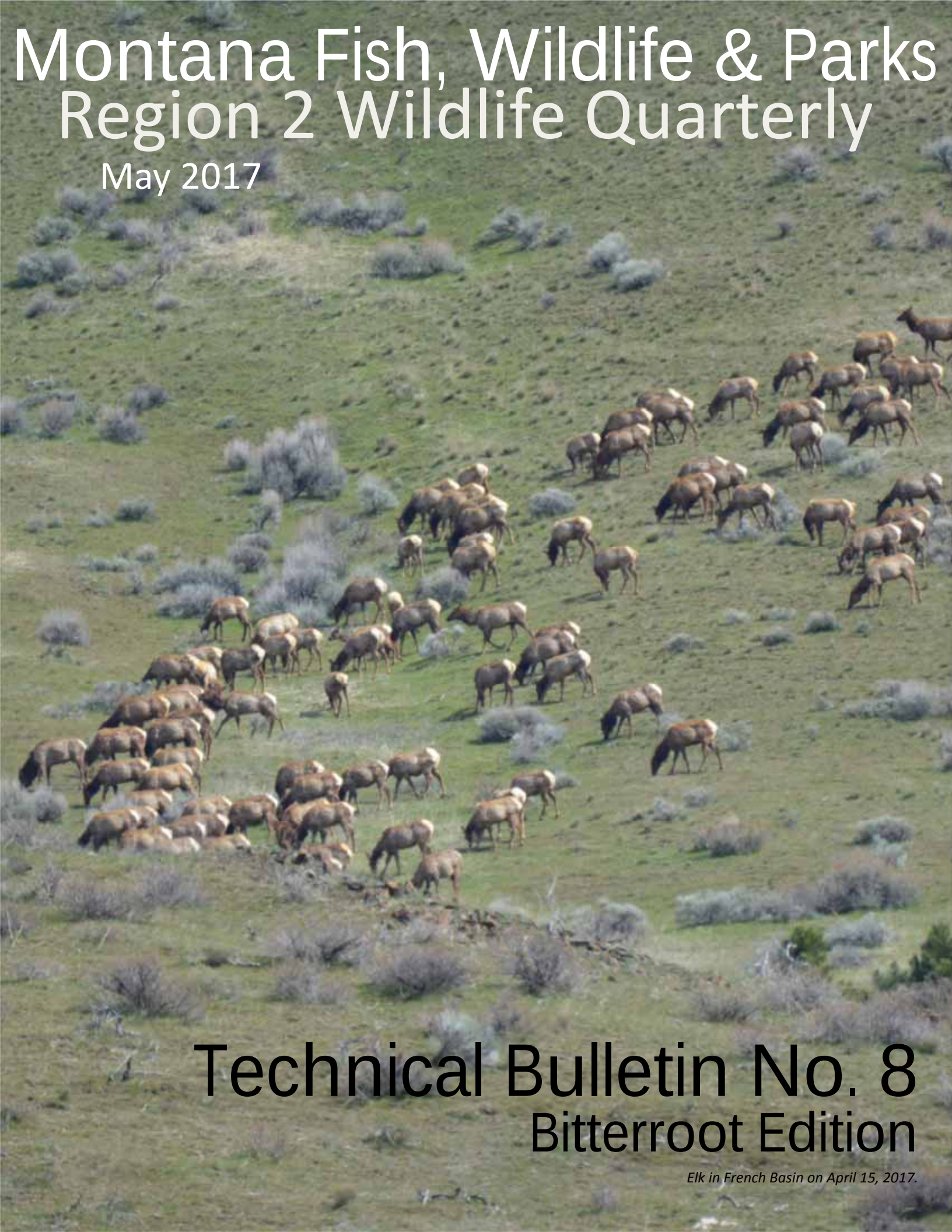
Montana Fish, Wildlife & Parks
Region 2 Wildlife Quarterly

May 2017



Technical Bulletin No. 8
Bitterroot Edition

Elk in French Basin on April 15, 2017.

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The Region 2 Wildlife Quarterly is a product of Montana Fish, Wildlife & Parks; 3201 Spurgin Road; Missoula 59804. Its intent is to provide an outlet for a depth of technical information that normally cannot be accommodated by commercial media, yet we hope to retain a readable product for a wide audience. While we strive for accuracy and integrity, this is not a peer-refereed outlet for original scientific research, and results are preliminary. October 2015 was the inaugural issue.

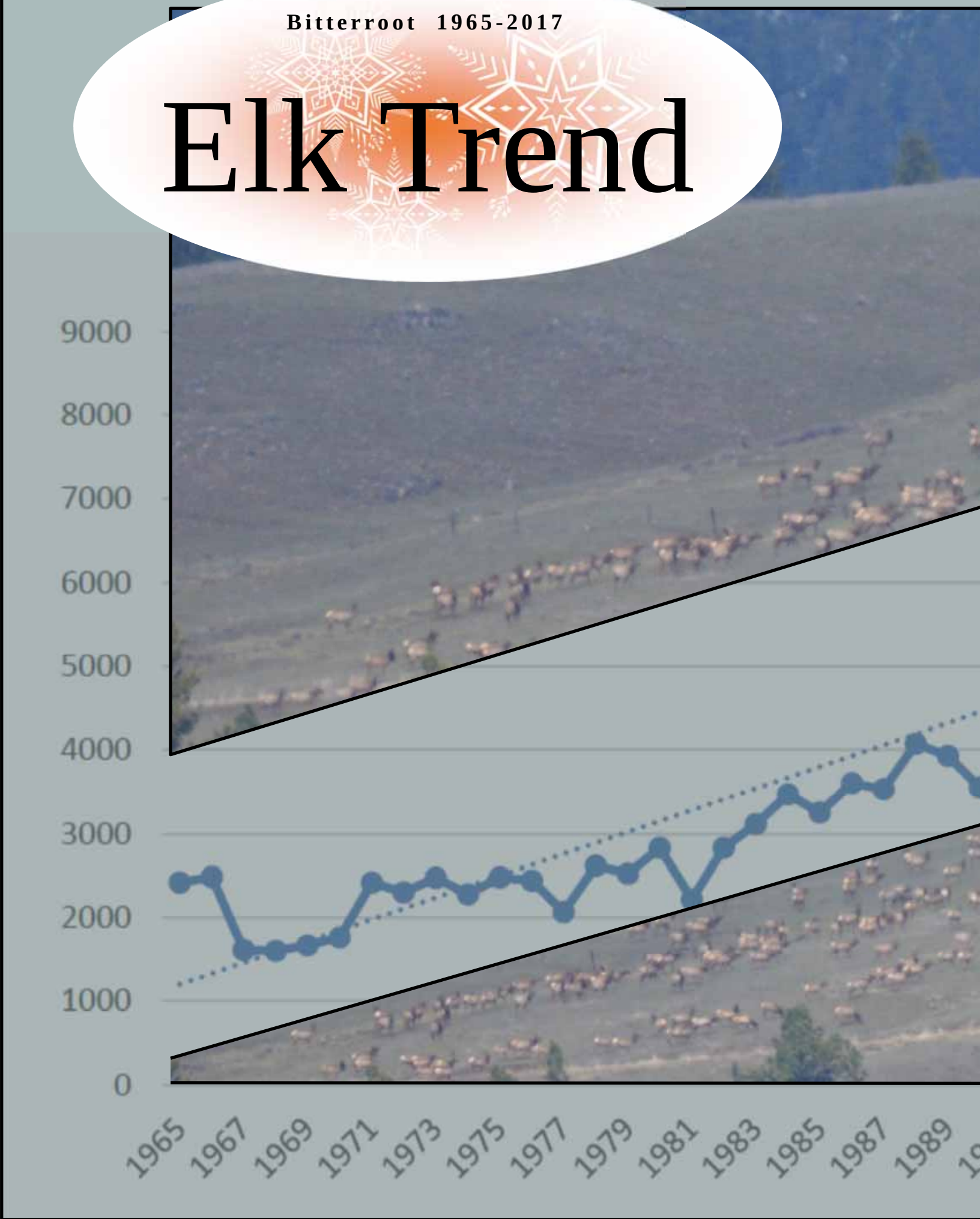
Daybreak

Or is it sunset? FWP biologist Rebecca Mowry and her pilot, Trever Throop, saw a lot of both ends of their days this spring. While winter lingered in the mountains, elk congregated on green-up in the lower slopes and bottoms, where sensible people tended their lawns and gardens. But, for Mowry and Throop, spring is a time when they can count on finding the maximum elk in the fewest spots. It's flying time again.

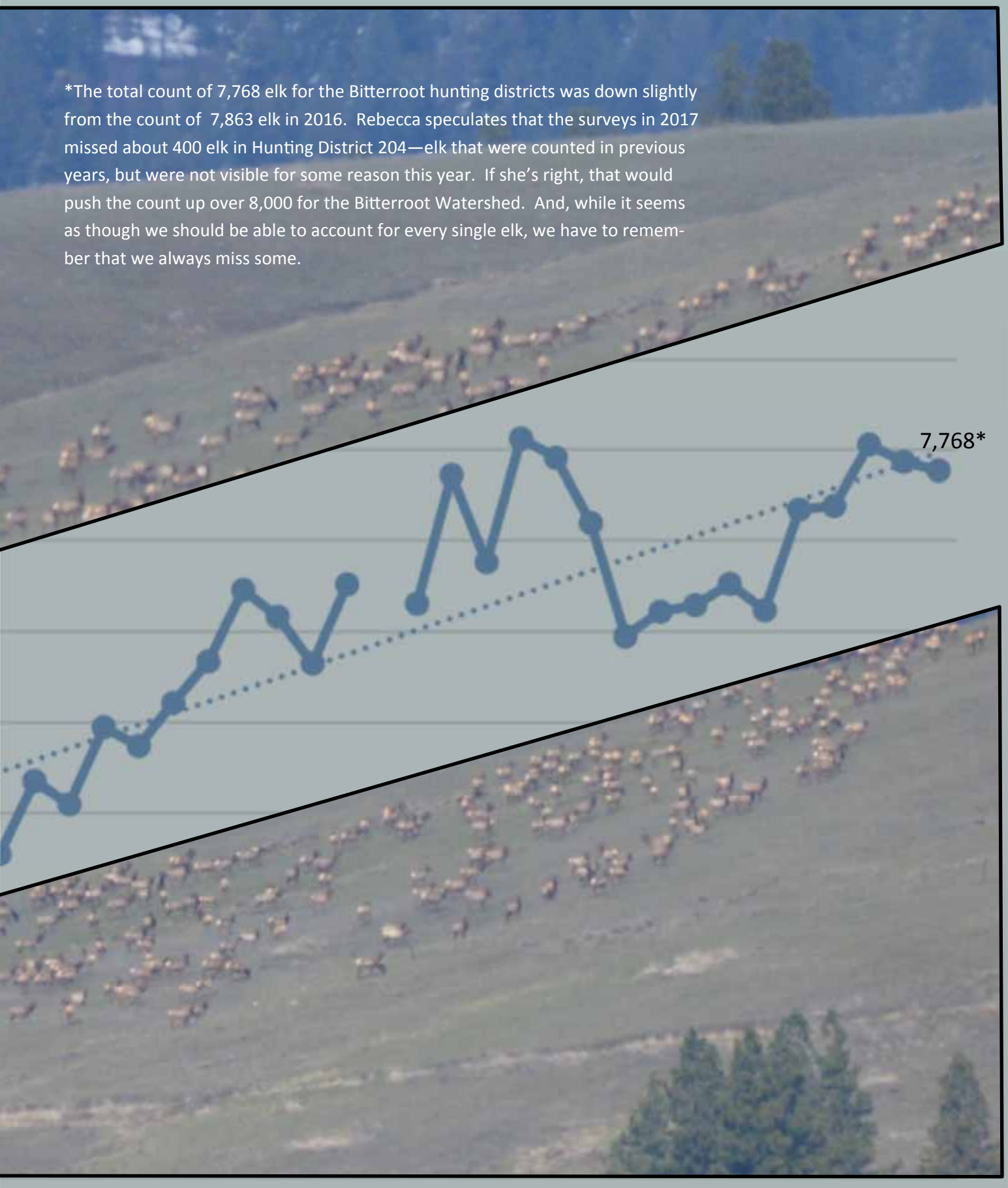
It's an annual rite in the Bitterroot dating back to 1965. Flying for elk in the same way, at the same time, year after year acquaints both biologist and pilot with constancy—the same elk, standing in the same spots, year after year. And with constancy and repetition comes a keen eye for change—changes that the numbers alone might mask for others without this unique perspective. This issue of the Quarterly is a report on their latest results.

Bitterroot 1965-2017

Elk Trend



*The total count of 7,768 elk for the Bitterroot hunting districts was down slightly from the count of 7,863 elk in 2016. Rebecca speculates that the surveys in 2017 missed about 400 elk in Hunting District 204—elk that were counted in previous years, but were not visible for some reason this year. If she's right, that would push the count up over 8,000 for the Bitterroot Watershed. And, while it seems as though we should be able to account for every single elk, we have to remember that we always miss some.



Bitterroot 2017

Summary

Hunt District	Total Elk	Cows	Calves	Bulls	Calf:cow	Bull:cow
204	642	409	121	112	0.30	0.27
240	1129	796	200	133	0.25	0.17
250	855	508	167	145	0.33	0.29
261	882	651	141	90	0.22	0.14
270	3956	2621	548	564	0.21	0.22
River	304	226	56	22	0.25	0.10
TOTAL	**7768**	**5211**	**1233**	**1066**	**0.24**	**0.20**

Elk hunting districts in the Bitterroot were redrawn in 2014 to correspond with the patterns of elk movements and migrations that were revealed by radio-tagged elk in the Bitterroot Elk Study. This past year, Rebecca entered historic counts, drainage by drainage, into her database and recombined the data so that it corresponds with the current elk hunting district boundaries, from 1965 to the present time. So, from now on, any comparisons of elk counts from one year to the next will correspond with current district boundaries.

Counts of bulls are always the least reliable data collected in the surveys. Bulls often hang up in the timber or winter at higher elevations, away from the cows and calves. And, bulls exhibit a lot of variability in their distributions from one year to the next. They are data that must be considered on the basis of long-term trends if we want to make good sense of them.

Bull counts were further complicated this year by the fact that foul weather pushed the flights later into the spring, when more than the usual number of bulls had shed their antlers. While a lot of the bigger bulls are usually shed at the start of the survey season, they can still be classified by their bullish body conformation and color. Spike bulls usually hold their antlers through all or most of the survey season, but this year the spikes shed before the surveys were completed. Spikes often don't look a lot different than cows or 11-month-old bull calves without their antlers, so Rebecca expects that her bull counts this year were quite conservative. Still, the bull count of 1,066 came in higher than last year's tally of 918.

Bitterroot 2017

HD 204

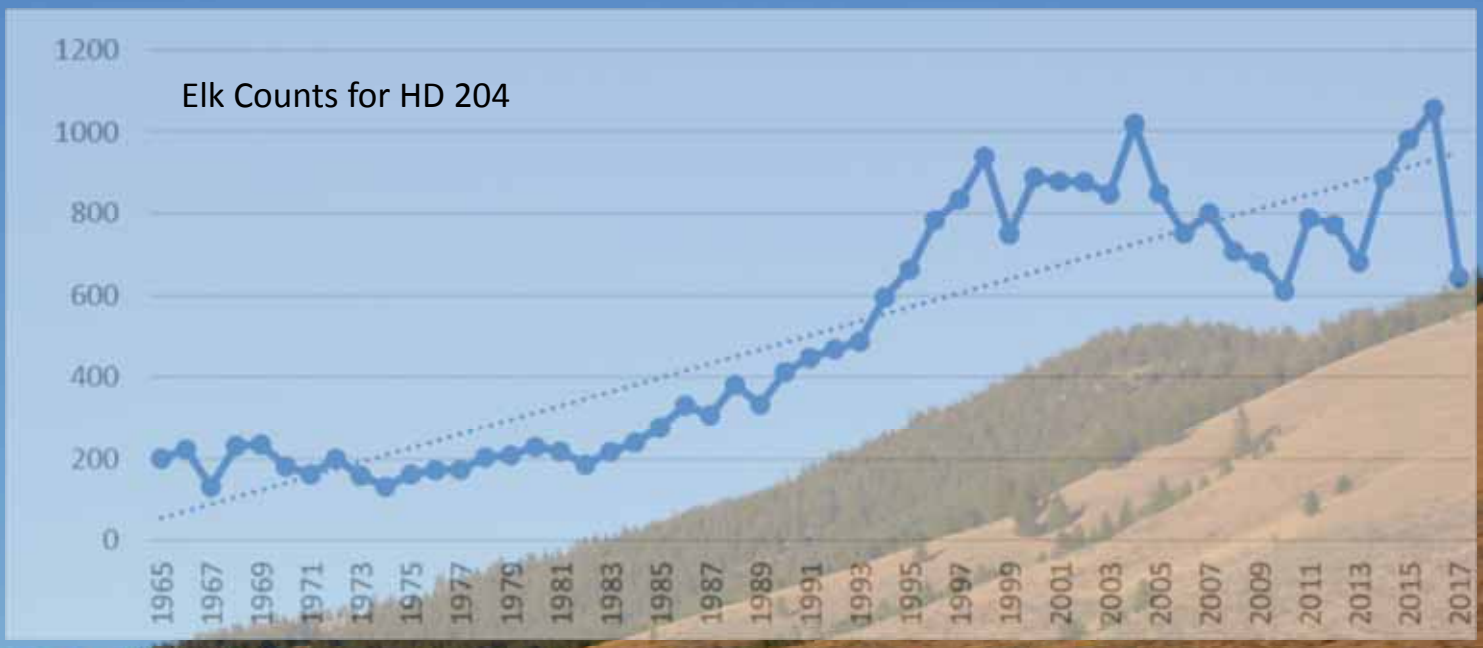
This year's count in Hunting District 204 was disappointing. We knew where elk were in the weeks leading up to the annual survey, but quite a number of them vanished when the survey began. So, it would seem that 2017 will be a downward blip in the long-term trend, and we look forward to next year's count.

Even so, this year's count of 642 elk was above the point objective of 600 elk, as prescribed by way of the Statewide Elk Management Plan process.

The biggest decline in elk numbers that were counted during the survey was in the portion of HD 204 running from the South Hills of Missoula to Eight Mile Creek. Numbers elsewhere in HD 204 were comparable to last year's count.

Calf and bull counts were comparable to years past, but numbers of cows accounted for the biggest decline in our count. Again, Rebecca believes that this is an issue with the survey quality this year, and not an accurate reflection of something going on with the elk population in this area.

So, the ratios of calves and bulls per hundred cows were quite good. Thirty (30) calves per hundred cows is good recruitment, and 27 bulls per hundred cows will please most hunters.

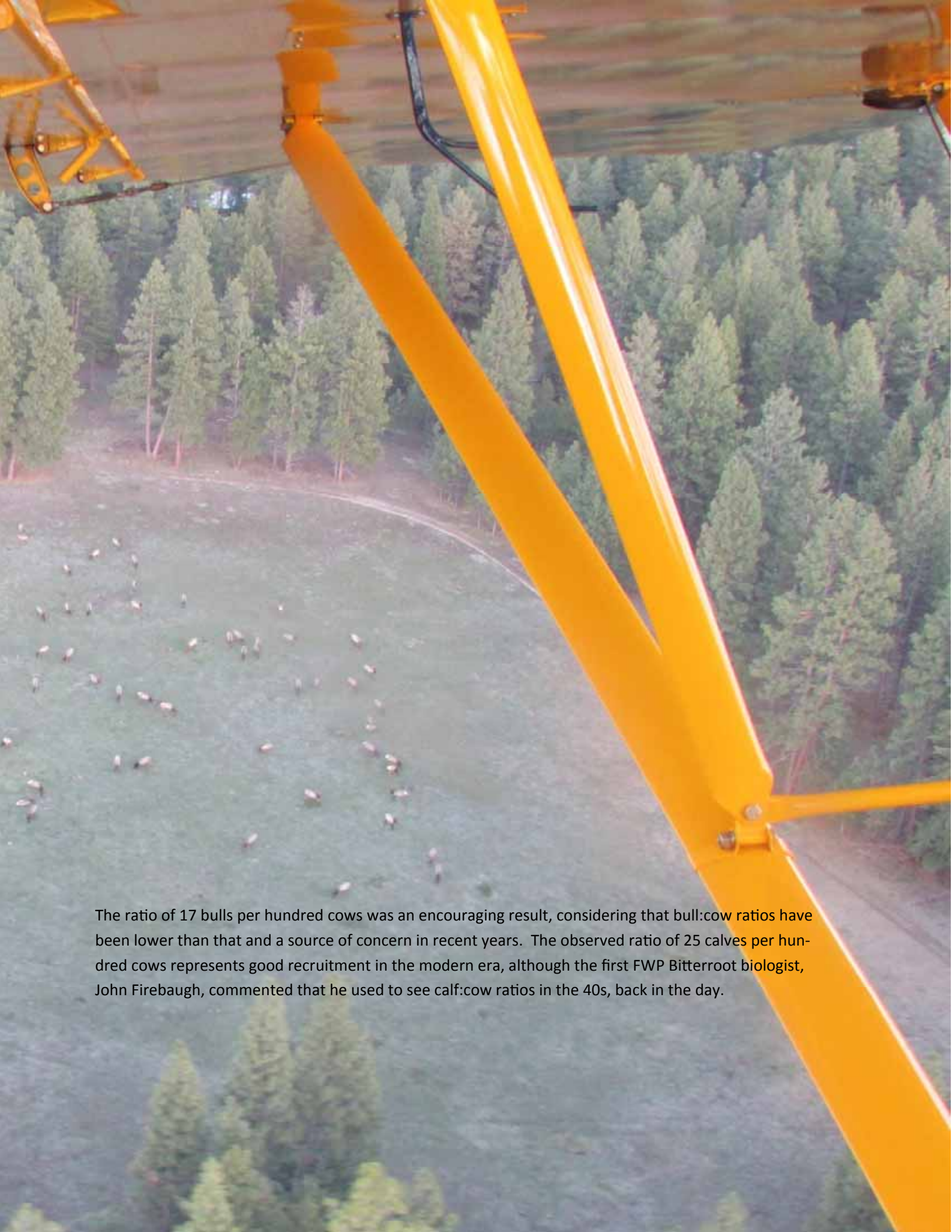


HD 240

While the survey of HD 204 was something of a disappointment, Rebecca's strategy for surveying HD 240 worked very well. Usually she surveys HD 240 toward the middle or end of the survey season, but she flew it first this year in an attempt to surprise the bulls that have seemed to escape her surveys in the past.

The result was a higher-than-normal count in HD 240 this year. Now there is a new problem; there is the possibility of double-counting about 300 elk that move between HDs 240 and 270 during the two-week gap between the surveys in these adjacent districts.

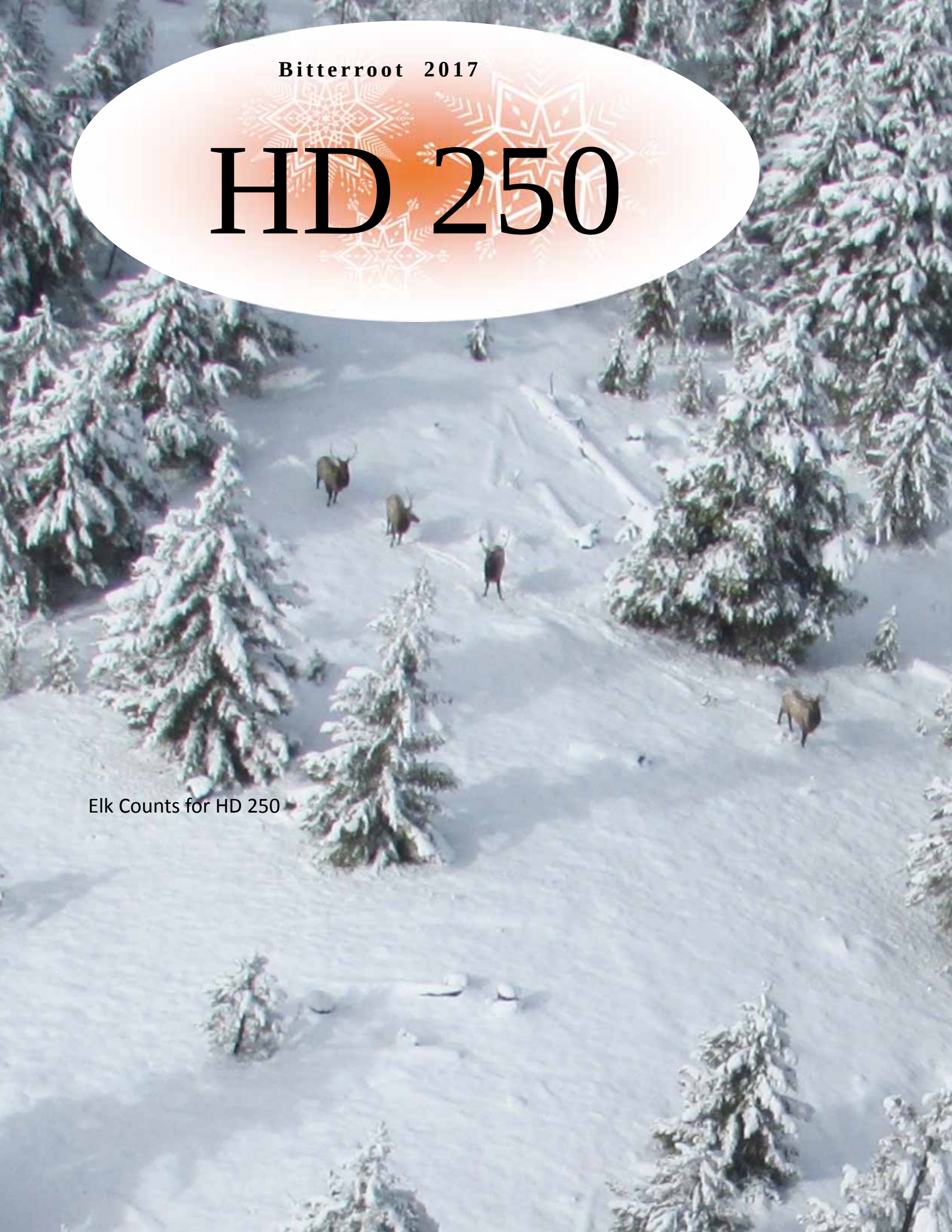
Elk Counts for HD 240



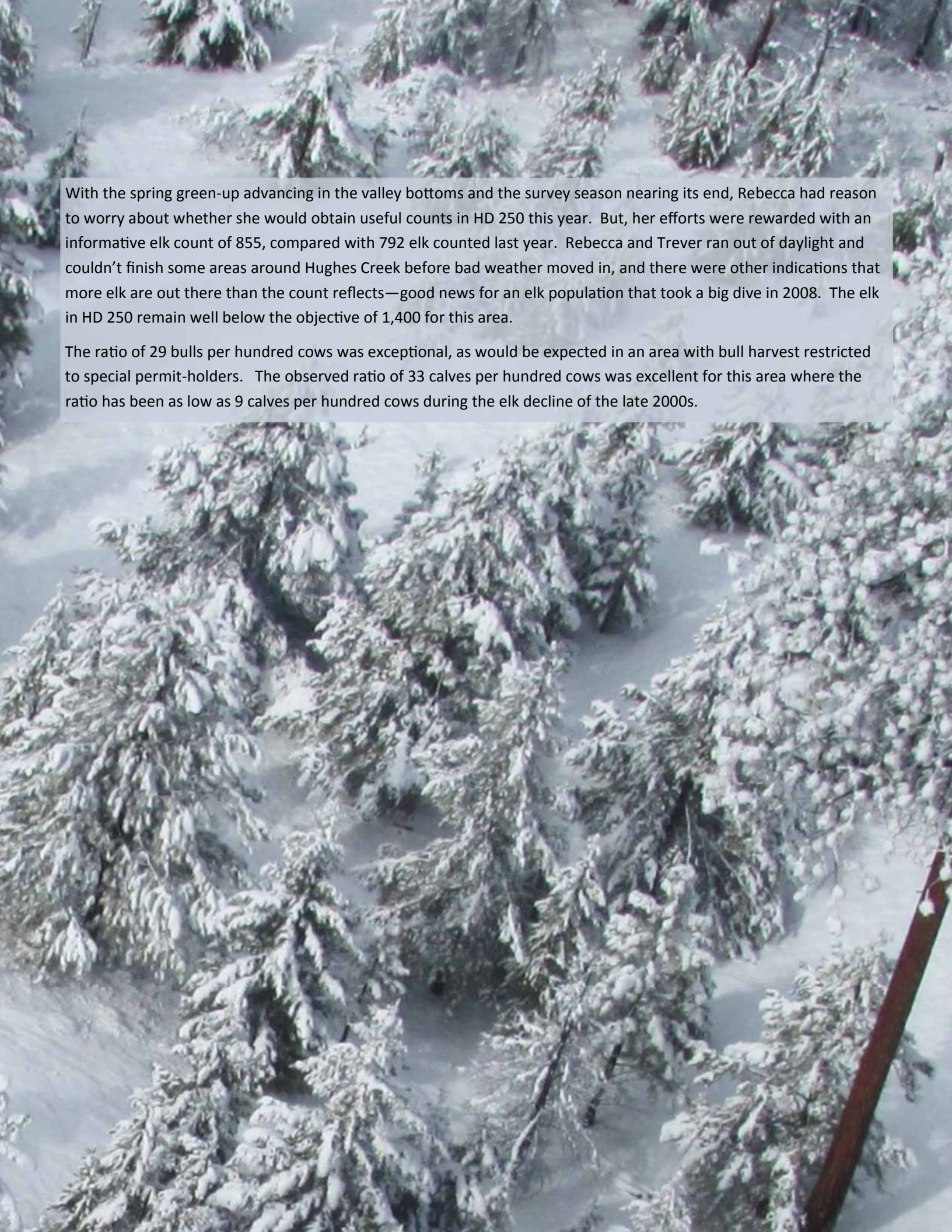
The ratio of 17 bulls per hundred cows was an encouraging result, considering that bull:cow ratios have been lower than that and a source of concern in recent years. The observed ratio of 25 calves per hundred cows represents good recruitment in the modern era, although the first FWP Bitterroot biologist, John Firebaugh, commented that he used to see calf:cow ratios in the 40s, back in the day.

Bitterroot 2017

HD 250



Elk Counts for HD 250

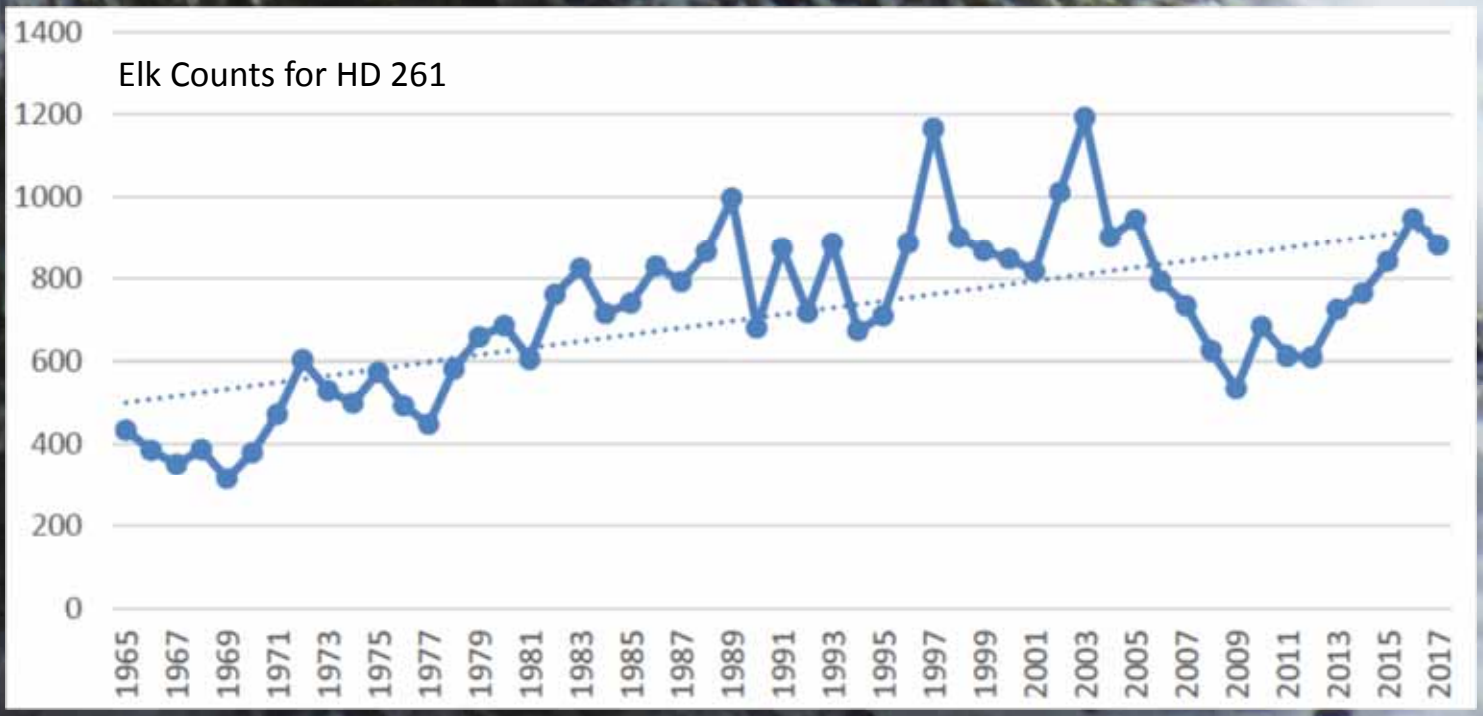


With the spring green-up advancing in the valley bottoms and the survey season nearing its end, Rebecca had reason to worry about whether she would obtain useful counts in HD 250 this year. But, her efforts were rewarded with an informative elk count of 855, compared with 792 elk counted last year. Rebecca and Trever ran out of daylight and couldn't finish some areas around Hughes Creek before bad weather moved in, and there were other indications that more elk are out there than the count reflects—good news for an elk population that took a big dive in 2008. The elk in HD 250 remain well below the objective of 1,400 for this area.

The ratio of 29 bulls per hundred cows was exceptional, as would be expected in an area with bull harvest restricted to special permit-holders. The observed ratio of 33 calves per hundred cows was excellent for this area where the ratio has been as low as 9 calves per hundred cows during the elk decline of the late 2000s.

Bitterroot 2017

HD 261



The count of 882 elk in HD 261 was down slightly from last year's count of 947 elk. Nevertheless, it stands above the objective of 700 elk for this area.

The ratios of 22 calves and 14 bulls per hundred cows were nothing to write home about, but acceptable for surveys that had to be squeezed-in between storms and flown somewhat more hurriedly than the ideal.

Bitterroot 2017

HD 270

Elk Counts for HD 270

The count of 3,956 elk in HD 270 was barely lower than last year's count of 4,018 elk, and is within the objective range of 3,800 ± 20%. A closer look at the numbers indicates that cows were down by about 400, calves were down by 20 and bulls were up by 125, compared with last year.

The difference in numbers of cows counted is important and Rebecca has identified some issues that may affect the number of cows in the count for any given year. First, there is the aforementioned challenge of counting—without double-counting—elk along the boundary between 240 and 270. In addition, there is the potential for double-counting elk as they move from the CB/Rye areas to French Basin. It takes multiple days to fly the entirety of HD 270, so confounding elk movements between flights are always a possibility. Rebecca makes a case for wondering if some counts in the past are too high, due to the risk of double-counting some groups. It's always a possibility.

To further confound the matter, we tend to undercount the number of elk that are in big groups of several hundred individuals, which stands to reason. Unless you just make a guess—and we don't—it's hard to keep your eyes moving fast enough to count them all before the Super Cub finishes making each pass over large groups.

The observed ratio of 21 calves per hundred cows is not alarming, but not great either. However, calf:cow ratios are notoriously underestimated in large elk groups. Bull:cow ratios are a little easier to obtain, but are also underestimated in large groups; by default we tend to inflate the numbers of cows because we don't get a close enough look to call all of the calves correctly. The observed ratio of 22 bulls per hundred cows is good for HD 270.

HD 270

Here's a comparison of how elk counts were distributed across the survey units in HD 270 in 2016, compared with 2017. The case can be made for consistency, as well as for variation.

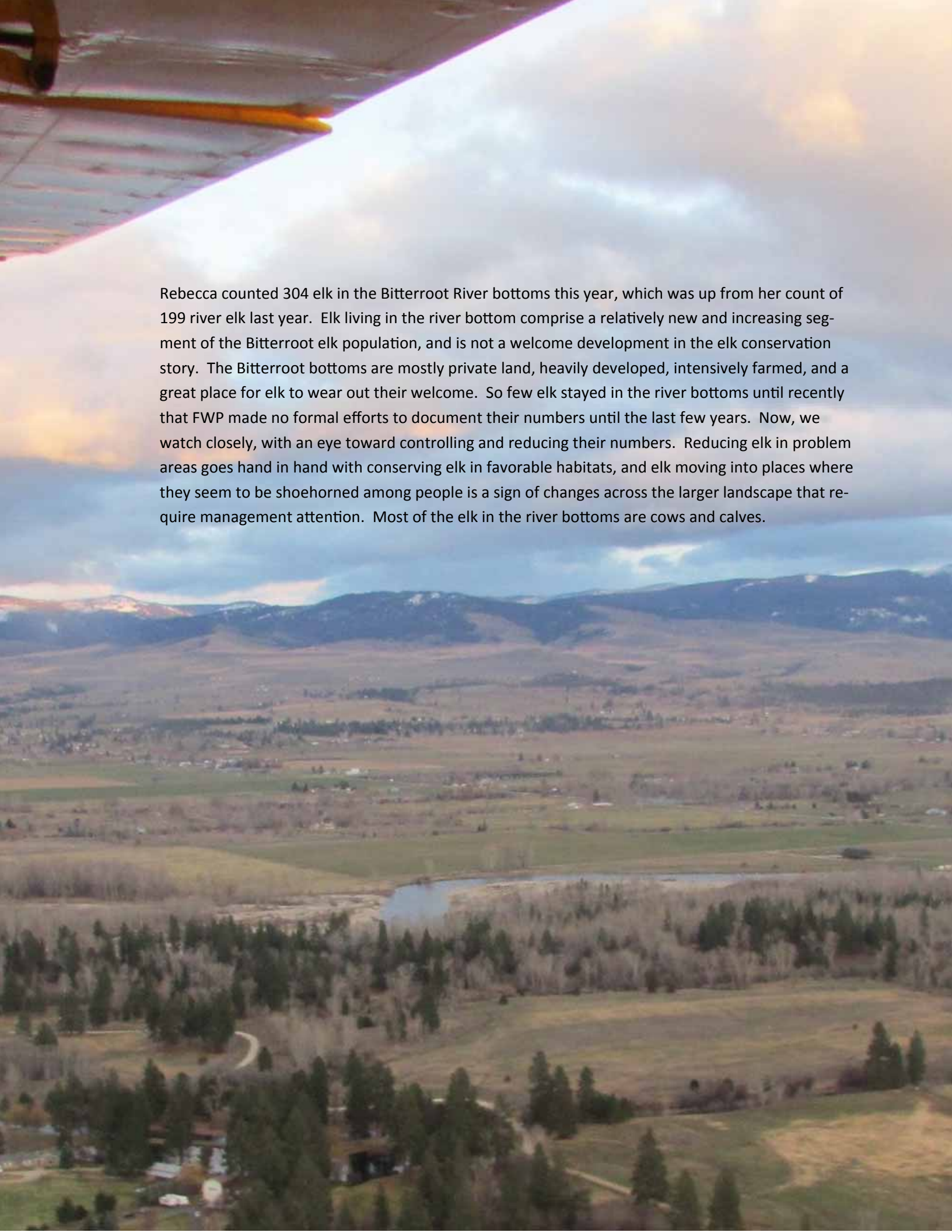
Year	Segment	TotalCount	Cows	Calves	TotalBulls
2015-2016	Porcupine-Fire	4	2	0	2
2015-2016	Fire-Planet	6	5	0	1
2015-2016	Waugh-Laird	38	16	8	14
2015-2016	Laird-Dickson	12	10	1	1
2015-2016	Dickson-West Fork	37	32	5	0
2015-2016	Daly-Railroad	8	4	2	2
2015-2016	Skalkaho-Sleeping Child	655	517	83	55
2015-2016	Sleeping Child-Rye	1379	1022	181	176
2015-2016	Rye-Sula Point	498	360	78	60
2015-2016	French Basin-West	193	148	23	22
2015-2016	French Basin-East	573	414	90	69
2015-2016	North Side East Fork	506	407	74	25
2015-2016	South Side East Fork	109	79	18	12
2016-2017	Porcupine-Fire	0	0	0	0
2016-2017	Fire-Planet	0	0	0	0
2016-2017	Waugh-Laird	83	57	14	12
2016-2017	Laird-Dickson	6	3	0	3
2016-2017	Dickson-West Fork	91	72	16	3
2016-2017	Daly-Railroad	15	0	0	15
2016-2017	Skalkaho-Sleeping Child	530	426	65	39
2016-2017	Sleeping Child-Rye	1009	687	133	189
2016-2017	Rye-Sula Point	228	177	36	15
2016-2017	French Basin-West	585	382	109	94
2016-2017	French Basin-East	1161	702	141	95
2016-2017	North Side East Fork	97	22	6	69
2016-2017	South Side East Fork	151	93	28	30

Elk Trail to the Big Hole

Spring migration from the East Fork of the Bitterroot, across the Great Divide, to summer range in the Big Hole is a process of trial and error. Elk may try Shultz Saddle several times before determining that snow conditions are right to cross. This try at an early crossing failed, as can be seen by the elk cul-de-sac at the end of the track near the top of the page. Rebecca and Trever subsequently tracked the thwarted migrants to their beds, adding an insult to their fatigue.

Bitterroot 2017

River Elk



Rebecca counted 304 elk in the Bitterroot River bottoms this year, which was up from her count of 199 river elk last year. Elk living in the river bottom comprise a relatively new and increasing segment of the Bitterroot elk population, and is not a welcome development in the elk conservation story. The Bitterroot bottoms are mostly private land, heavily developed, intensively farmed, and a great place for elk to wear out their welcome. So few elk stayed in the river bottoms until recently that FWP made no formal efforts to document their numbers until the last few years. Now, we watch closely, with an eye toward controlling and reducing their numbers. Reducing elk in problem areas goes hand in hand with conserving elk in favorable habitats, and elk moving into places where they seem to be shoehorned among people is a sign of changes across the larger landscape that require management attention. Most of the elk in the river bottoms are cows and calves.